EDITORIAL

"Satisfying America's Sweet Tooth"

Satisfying America's Sweet Tooth and at the same time satisfying the stockholders of the manufacturing plants of our industry with a satisfactory profit, is the objective of a national candy selling campaign which we all hope will be worked out in a practical way and put into action this year. The article on page 20 by Norman Sweet should be given very careful study by our readers as it contains the basic idea and plan of cooperative effort to increase the consumption of confectionery in a way that will benefit most the manufacturers of good candy who bear the expense of the campaign. The article contains the full text of the booklet "The Kingdom of Kandyland," written by Mr. Sweet—a booklet which, though designed and edited primarily to interest the Kiddies, has an irresistible appeal and attraction to the grown-ups, and tells the story of pure and healthy candy in picture and poetry in a delightful style.

The merchandising value of this booklet lies first in its appeal to the consumer. The copy and illustrations in full color have a positive and constructive value in stimulating a special interest in and desire for candy of some kind, and especially if there are Kiddies in the family who read it or have it read to them, for this booklet will never get past any youngster young or old, including we daddies and grand-daddies who have "never grown up." It'll leave an *ever-to-be-remembered* impression on all.

The most important point about this proposed campaign is that it aims to identify the retail stores at which candy that is "pure and healthy" (the passwords of the Kandy Kingdom) can be purchased. By the use of attractive and fitting interior and window posters, signs, strips, etc., a store may be identified as a unit in the Kingdom of Kandyland. The national advertising will of course tell the truth about the food value of candy and its merits as gifts and tokens of remembrance, etc., and also feature this booklet which may be had free of charge at the stores which display the "Kingdom of Kandyland" sign.

But let's not wait until a fund for this national campaign can be had before putting this booklet to work. An appropriation of five or six thousand dollars would pay for all the color plates and a first edition of approximately two hundred thousand booklets. These can be freely distributed through the manufacturer and jobber to all retail outlets and to the public with every purchase and thus give the whole industry a taste of this cooperative campaign so that everyone can get a better idea of how it will function when put into force on a larger scale. A greater proportion of the industry will no doubt be willing to contribute to this national advertising budget when they can see some logical plan worked out in detail. This subject will probably be brought up at the National Convention of the N. C. A. at Chicago this year. Come prepared to do your bit toward getting some action on this cooperative candy selling campaign.

Remember the date, May 19-23, 1924. Convention Headquarters at the Drake Hotel.

An Epoch Making Administration

The 1924 Convention of the N. C. A. will be epochal in some respects. For instance, it is the first time that the National Confectioners' Association has undertaken to manage and control an exposition of confectioners' supplies and equipment. This action has a far-reaching influence, first because it must necessarily bring the confectionery supply manufacturers in closer personal touch with the active membership in a way that emphasizes that co-operative relationship which should exist between our industry and the supply field.

The N. C. A. have taken the responsibility of the exposition and are inviting the supply manufacturers to take exhibit space where the active membership can meet the executives of the firms who are soliciting their business and observe new things, new lines and feel a closer personal contact with the machinery, raw material and supply people who are so very keenly interested in the candy industry. This means that the manufacturing confectioners will want to be represented not alone by their sales manager or semi-retired executives (as has been more or less the case in the past), but also by the factory manager, the superintendent, the buyer—the individuals who control the purchases of equipment and supplies.

The executive committee this year has shown for the first time within the recollection of the editor a determination to break the bonds of ultra-conservatism on the discussion of practical subjects relating especially to the production problems of our industry—a characteristic for which the candy industry is notoriously conspicuous. We are given to understand that the N. C. A. convention program this year will have, as never before, a practical application and interest for the technical and practical men who would like to meet together and thrash out some problems on production costs, manufacturing processes, handling of materials, etc. This certainly will bust all precedents in this industry; however, other food industries have thrived and their individual members have made money by close association and open discussions between their technical men.

A competitor who knows his costs is a good competitor. More power to Mr. Belcher and his co-workers—one of the most progressive administrations in the history of the N. C. A. All aboard for Chicago, May 19-23.

The Drake Hotel, Chicago—N. C. A. Convention Headquarters, May 21-23.

Come to Chicago May 19-23

The forty-first annual convention of the National Confectioners' Association of the United States will be held in Chicago, May 21, 22, 23, 1924. Convention headquarters will be at the Drake Hotel, 1000 Lake Shore Drive, and the N. C. A. Exposition and also the afternoon sessions of the convention will be held on Chicago's Municipal Pier, a few blocks from the Drake.

Convention and Exposition Program

The forenoon sessions will be held in the Hotel Drake, and they will be adjourned about 1:00 o'clock p. m. each day. The afternoon sessions will be held on the Municipal Pier and will be convened at 2:00 o'clock on Wednesday and Thursday afternoons in a specially prepared Convention Hall immediately east of the Exposition Hall. The sessions will be adjourned early, probably about 4:00 o'clock, which will give ample opportunity for all in attendance to take in the Exposition, which will be open until 11:00 p. m.

Prominent men in our industry will talk on practical subjects of general interest, such as Cost Accounting, Trade-Marks, Manufacturing Processes and other questions of special interest to all manufacturers of our industry. These talks will be snappy and to the point, and those present will be requested to express their views and experiences as applied to their particular business.

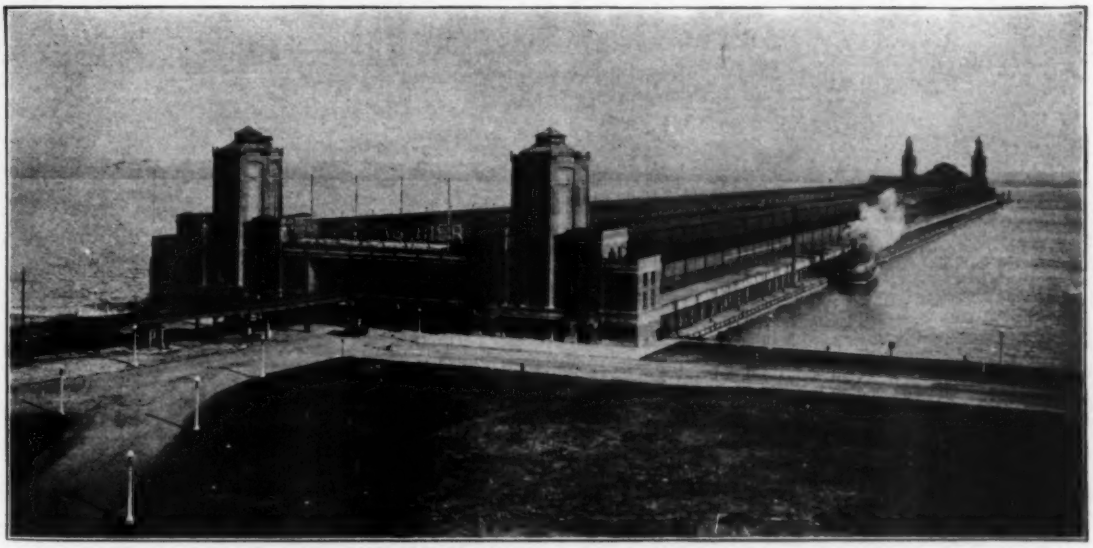
The free exchange of ideas and experiences will be of untold value to those present and bring about closer co-operation and a better understanding between the members of the N. C. A. This is the fundamental basic principle of the real value of the Association's services to its members.

The benefits that we will receive from the Convention and Exposition will depend entirely upon how much interest we take in both and our willingness to co-operate and assist in making both a success. If we put a lot of effort and interest into our Convention and Exposition, we will receive a corresponding benefit.

The Exposition on the Pier

The rental for exhibition space is only $1.50 per square foot and includes all equipment necessary for an exhibitor to arrange an attractive exhibit. This is a very reasonable charge. This includes a table, a grass rug for each exhibition space, two chairs and a costumer. If additional or different furniture is wanted or special lights are required, they will be provided for at a very reasonable charge.

The exhibition space will be allotted to the



The Municipal Pier, Chicago, Home of the N. C. A. Exposition, May 19-23, 1924
A Short Walk from the Drake Hotel.

best possible advantage. Great care will be exercised to prevent competitive exhibits from adjoining each other. Exhibitors will be notified of their space allotments at least five weeks prior to the opening date and a Requisition Form will be sent at that time, enabling them to specify any special equipment or service that they may require.

There will be special new features which will add to the attractiveness of the Exposition and increase the interest and attendance.

One of these special features is THE SALON at the east end of the exhibits, which will be tastefully decorated, furnished with comfortable upholstered wicker furniture, and which will provide a delightful lounging room for exhibitors, their customers, friends and guests.

Another special feature of the Exposition will be the music, which will be furnished by BENSON'S ORCHESTRA from 2:00 to 5:00 p. m. and 8:00 to 11:00 p. m. Those who desire to do so may dance and refreshments will be served each afternoon and evening during the Exposition.

Arrangements will be made for proper publicity along the lines that will be the most helpful and of the greatest benefit to the exhibitors and to the Candy Industry at large.

This is *our* Exposition. Every member of this Association should be interested in its success. It will be conducted for the good of all and not for profit. Any balance remaining after all expenses are paid will be used for the benefit of future Expositions.

Dr. Milton G. Hollis, head of the Hollis Candy Company of Reading, Pennsylvania, passed away February 15th.

The A. R. Walker Candy Company is planning to move to Owosso, Michigan, from Muskegon. They will build a new plant near their present warehouse.

It is reported that the Taylor Candy Company, Battle Creek, Michigan, burned with a loss of $75,000.

New officers of the Crystal Confectionery Company, Burlington, Vt., for the coming year were elected as follows: W. C. Clark, President; E. D. Fuller, V. P.; A. C. Weston, Secretary; C. L. Woodbury, Treasurer; Sales Manager, F. W. Knight.

The Candy Products Corporation, New York City, recently purchased the Chase Candy Company. William P. Chase maintains his interest in the firm. Their present plant will be moved to Hoboken, N. J.

Directors of the United Retail Candy Stores, Inc., recommend that the name of the firm be changed to Happiness Stores, Inc. This is their trade name and will identify their product more closely with the firm name.

William H. Boney, a prominent candy manufacturer of Lincoln, Neb., passed away. He was associated in business with Frank L. Gillen.

Mikalas Bros., manufacturers and retail dealers in confections in Kokomo, Indiana, filed a petition in bankruptcy.

Satisfying America's Sweet Tooth

Discussing a National Candy Selling Campaign and Announcing the "Kingdom of Kandyland" Booklet

by Norman Sweet

Sales Service Manager, The Manz Engraving Co., Chicago

THERE'S only one profitable way to satisfy "America's Sweet-Tooth," and that way is the simple and natural way. Co-operation. In this one word is the full power of success for the candy industry.

Every manufacturer, every jobber and every dealer must "pull together." No more working in the dark. No more trying to "DO" the other fellow. All must put their shoulders to the wheel.

Concentrate on a definite policy of advertising and selling and all work as if the success of the industry depended upon the co-operation of the smallest dealer who sells—candy. IT DOES.

Broadmindedness will start successful candy selling in a National way.

Open your records—give the "truth" about everything—establish concrete facts about "production costs" and "selling costs."

From these facts, establish a uniform candy cost for the industry.

This done and the road to great prosperity is at hand. How? Very naturally and simply. The manufacturer will help his dealer sell, which he must to increase his production. Advertising nationally will open the gates to volume selling and start the Nation to eating "more candy," and liking it better and better.

Not only will there be special candy buying periods like Easter, Mothers' Day and Valentine's Day and Christmas, but folks will think of buying candy like they buy cigarettes, flowers, etc.—EXCEPT that they will buy candy oftener and more people will buy candy than people who buy cakes in boxes and flowers every Saturday. Why? Because it's better for them and cheaper and easier.

The flower industry through their co-operative advertising campaigns have started the people of America buying flowers—"with a purpose."

The candy industry must do this, too—have the great American public buy candy WITH A PURPOSE.

What businesses are profiting in a huge way because of the backwardness of the candy industry?

The biscuit and cake industry—the soda and ice cream industry and, yes, even the flower industry, are taking away big business from you every day the candy industry hesitates to "get into action," and every day's delay will make it just that much harder and longer for your industry of candy makers and sellers to "arouse" the sweet-tooth of America.

Your dealer is the one you've got to help first. And help him you must with a definite selling aid. Display is a big feature.

Colored signs suggesting the wonderful deliciousness of candy. NOT ANY SPECIAL CANDY. Just candy.

It is here where all the delay has happened.

Every candy maker wants to feature *his* particular brand of candy—chocolates, hard candies, mixed candies, etc.

Now, learn this important fact. There are perhaps a greater variety of "flowers" than there are varieties or kinds of candies. Forget yourself what particular brand you sell—think of what you sell, fundamentally, as a national industry—CANDY.

Get the public to wanting candy—candy and more CANDY—every day and Sunday, too. Get the idea? All right, let's have real, honest, red-blooded ACTION.

A Real Fight on Our Hands

David Crocket was not an optimist, he was not a pessimist. He was an ACTIONIST. His successful fighting policy was—

"Be sure you're right, then GO AHEAD."

He won more battles and harder battles than we fight today. He used the powder and cap. You had to think and act quick in those days. It meant your life if you hesitated.

The candy industry has a "real fight" on its hands. The time has come to ACT. And this action must be done concertedly. All for one and one for all—to make the candy industry bigger and better and more popular in the minds and pocketbooks of the daily buyers of sweet things or of gifts and love tokens. Call it whatever you like.

Can it be done? YES. And bigger and better and more profitable than any other industry in the world. You ask why? Because "everybody" likes candy. That's a great slogan. But it has not been advertised in a big way or tied in with a definite selling plan, and consequently it means nothing to the "American Public Mind."

THE above is a reproduction (actual size) of the proposed booklet entitled "The Kingdom of Kandyland," to be illustrated beautifully in colors, which can be made the nucleus of a successful national candy selling campaign. The full text of this booklet is published in the accompanying article and has been considered favorably by various members of the Executive Committee of the National Confectioners' Association.

By distributing these booklets only from the "Kingdom of Kandyland" stores, which sell only candy which is "pure and healthy," then the national advertising will have a definite tie-up with dealers who sell candy manufactured by members of the National Confectioners' Association.

The two characters in the foreground are "Tim and Tot" who found their strength and pep and vim from eating the goodies of Kandyland. Note the little chocolate elf in the foreground, showing them the wonders of the Kandy Kingdom, the floor of caramels and marshmallows, the chest of glittering kandy jewels, etc. The Kandy King is on his throne, and standing beside him are his two foremen, "Spic and Span," two spotless kandy men with their banner and shield of "Purity." This whole Kandy Kingdom, "full of joy and health," is built of candy.

The original sketch, done in full color, from which the above reproduction was made, is very strikingly attractive—a masterpiece of originality and design; the story in rhyme is equally clever and full of practical selling value.

What to Do

You cannot expect the mere coining of a good slogan to sell the world candy. You've got to tie it up with a concentrated and co-ordinated candy-campaign of national scope and have the car cards, elevator cars, bill boards, dealers' windows and inside store signs and little booklets in colors with attractive rhymes and illustrations of the goodness of candy and the purity and healthfulness—YES, all of these and when you "get started" keep a-going!!! Production will begin to speed up and then your profits will commence to climb.

Use 100 per cent color in your advertising at once. Candy lends itself to color greater than any other product in the world.

Use the best and most "faithful" of candy illustrations in colors. You attract the BIG

AUDIENCE when you use good color illustrations and YOUR SELLING COMMENCES IMMEDIATELY.

Now, there's no great work to start this. A very simple concentrated campaign will do it. But it does mean that every candy manufacturer, every jobber and every dealer must accept the plan at once and all unite in this one great selling plan. It'll go over with such force as to startle you. Why not DO IT NOW?

Lay out the campaign. Broadcast it to every one of your N. C. A. members who sell or make candy. Get their approval.

Next step. Send out a questionnaire and have each fill out their potential seasonal selling of different candies. Their possible market must be approximated.

Now, from this questionnaire you can determine "HOW MUCH" each can subscribe annually for five years—payable in monthly payments. Then you're ready to go.

In less than five years you will have your "Market Selling Plan" of merchandising so completely and profitably "proven" that your problems will all be solved and the industry as a whole will be successful, and each individual member in particular will be successfully selling AT A PROFIT and a BIG ONE. He's not doing this today.

The REASON 5 and 10 cent stores sell more candy than the smaller retail stores is because they FEATURE this department and they sell a greater variety of other merchandise than 99 per cent of the other stores who CARRY candy and sell it OCCASIONALLY.

The 5 and 10 cent stores FEATURE their candy department. They have it located at the FRONT DOOR. Some put it in the CENTER AISLE. Wherever it's located, they make such a wonderfully tempting display that they DRAW THE CROWDS.

Display is the big feature. Price cards in colors with suggestive phrases like "Every bite a delight," "They simply melt in your mouth," "They're SO good."

Put "Romance" in your candy selling and you'll make bigger and better and more continuous sales.

Candy affords more novel means of selling than any other product that the writer knows of. It's colorful, tempting and appeals to the TWO GREAT SUCCESSFUL SALES FORCES—

1—The Sight
2—The Taste.

Pivotal Points in This Candy Selling Campaign

What are the steps and ideas to follow to put over this candy selling campaign successfully? They are very few and simple.

1—"Pure Candy" is the idea.

2—Tie-up the "Pure Candy" idea with an identification picture in colors for members' stores. Copyright this picture—"Kingdom of Kandyland" is the writer's suggestion which has been worked out and accepted as a fundamental picture for the advertising of "all candies" sold by the members of your association.

3—Broadcast a "Booklet" in 4-color process as an educational selling piece for the candy industry as a whole and distribute by each member in particular. This booklet is already written and has been approved by your executive committee. It contains in it fundamental idea-pictures which can be reused in your entire campaign—for car cards, dealers' displays, etc.

4—Your newspaper and magazine ads will make the demand for "pure candy" and tell them to go to their nearest dealer's store with the "Kingdom of Kandyland" poster and get the beautiful booklet in colors showing "Tim and Tot's Adventures in Kandyland." The campaign will be concentrated and unified on ONE FUNDAMENTAL IDEA—the sale of "Pure Candy."

We reprint the IDEA and TEXT of this booklet, "The Kingdom of Kandyland," herewith:

(This idea is copyrighted by the writer and is for sale only to the N. C. A.)

"The Kingdom of Kandyland"

Illustration—**Children at Their play**

"The day was bright and warm and gay,
With village of children at their play
Upon the lawns and grassy plots,
On hill and vale and woodland spots,
While childish voices filled the air,
And drove away all thought of care.
They played and romped the whole day long,
With laughter, music, shouts and song:
'Old London Bridge Is Falling Down,'
'Leap Frog,' too, and 'Hop Scotch Town.'"

Illustration—**Tim and Tot**

"There were but two in all this land
Who sat, dejected, hand in hand,
Listless, tired, wistful, too,
Longing to play as others do,
But pale and wan and thin and white,
They only watched and wished they might
Feel the strength and pep and vim
That kept the others fit and trim.
They tried to play, but they could not—
Sad were the hearts of Tim and Tot."

Illustration—**The Great Surprise**

"Rage filled Tim's soul and in his wrath
He stamped his foot, when, in the path
Directly under foot there sprang
A tiny elf, whose laughter rang
So merrily out that Tot and Tim
Could only giggle back at him.
His tummy was so round and fat;
Round were his toes and soft brown hat,
His face was brown and green his eyes,
Tim and Tot stared in surprise."

Illustration—**The Chocolate Elf**

"For this elf, from his toes to pate,
Was made of creamy choc-o-late,
With lime-drop eyes and lips so red
Of peppermint, that laughed and said,
'Oh Pshaw! Why cry, when in a trice,
I'll take you where 'tis sweet and nice;
Get on my cloak—give me your hand,
We'll soar away to Kandy-land!'
They leaped upon his outstretched clothes,
And up into the air they rose."

Illustration—**The Journey to Kandy-land**

"On up into the deep blue sky
They flew in twinkling of an eye,
And soon beneath them sped away
The homes and children at their play.
On, on they flew o'er lake and tree,
Until, afar, they thrilled to see
The bright green fields and rich brown land
That framed the bounds of Kandy-land.
'Hold tight,' the Kandy elf then said,
And down, down, down, they swiftly sped."

Illustration—**The Arrival at Kandy-land**

"At last upon the ground they bumped,
And from his clothing quickly jumped;
They clapped their hands in pure delight
At the wonders which now met their sight.
Chocolate fields with sugar dells!
Hills and vales of Karamels!
Pebbles of hard Kandy bright,
Iridescent, pink and white,
Green and orange, brown and red!
'Well, here we are,' the elf then said."

Illustration—**The Password, "Good and Healthy!"**

"Tim and Tot, upon the ground,
Turned and wistful, gazed around.
'It cannot hurt you,' said the elf,
' 'Tis "Good and Healthy," help yourself!'
With here a whole Kandy Kreation,
They needed no more invitation,
But set about with all their might
To fill their tummies with this delight;
And strong and stronger yet, they grew,
And danced as other children do."

Illustration—**In Kandy-land**

"With Kandy sticks in either hand,
They walked the streets of Kandy-land;
The Kandy people came to stare,
And wonder at this curious pair,
To bow and smile and bob the head—
' 'Tis "Good and Healthy," ' they all said.
And little chocolate babies played
Beneath a sugar-maple's shade;
The land was filled with joy and health
(Which means a whole lot more than wealth)."

Illustration—**The King of Kandy-land**

"On either side of pebbly street
The Kandy houses, bright and sweet,
Stood Klean and lovely to the eyes;
But suddenly, to Tim's surprise,
A brilliant Kastle did appear
Of crystal Kandy, glittering spear
And golden turret, gleaming bright,
While in a hall of dazzling light,
On peanut Kandy throne so grand,
Sat the King of Kandy-land."

Illustration—**Tim and Tot Take a Ride**

"The King was gracious—jolly, too,
And wore his krown, as all kings do,
On one side of his Kandy head.
He smiled at Tim and Tot and said,
'Our Kountry's at your command!
Welcome, dears, to Kandy-land!
My Kandy-Kart is at the door,
Drawn by Kandy-Kats. My store
Of Wealth I'll drive you to behold—
My treasure house of gems and gold!' "

Illustration—**The Drive Through Kandy-land**

"Into the Kandy-Kart they got—
The King, the elf and Tim and Tot,
Away through hills of golden brown
And gleaming streets of Kandy-town,
Till up before a Kave they drew,
And at the opening, krawled through.
Stalagmited, Krystal Klear, there hung—
Rock-Kandy ones! From floor had sprung
Stalactites, too, while everywhere
Glittered Kandy jewels rare."

Illustration—**The Kave of Kandy-land**

"The King, with gracious majesty,
Opened chests for them to see,
And decked them in rich gifts, so rare—
Lime-drop emeralds—in Tot's hair
He placed a diadem of pearls,
Gum-drop ones, so dear to girls.
Cinnamon drops made rubies fine,
Glow like fire, their wondrous shine
Lit the Kave with ruddy light,
Aladdin's cave was not so bright."

Illustration—**The Return**

"Said Kandy-King, 'We'll now depart
To show you just a tiny part
Of how the Kandy-Kingdom's made.'
So, back again in a Kandy-glade,
They saw the Kandy factories rise
Like Krystal gems against the skies.
The King klapped loud his hands and then—
Out came two spotless Kandy men.
'I'll introduce you, if I can,
To my two foremen—Spic and Span.' "

Illustration—**Spic and Span**

"They looked alike from toes to head,
So shiny spotless that Tot said,
'How do you keep so white and clean?'
They turned and glared. 'What do you mean?
You've spoken treason there, I fear,
Dirt isn't even dreamed of here.
While Spic and Span and King kommand
There'll be no dirt in Kandy-land!
Just find a speck, now, if you can—
But then, you can't,' said Spic and Span."

Illustration—**The Terrible Mistake**

"Poor Tot felt sad at their reproof,
She felt like going through the roof.
They soon were sad they'd spoken so.
'Come, dears, don't mind,' they said. 'We'll go
And show you how it all is planned
To make our lovely Kandy-land.'
Oh, what a sight then met their eyes—
A fairy Kandy paradise!
Each shining room held some perfection
In rich, delicious, pure confection."

Illustration—**The Kandy Factories**

"Through groves of nuts of every kind,
On sugar hills and paths that wind,
Past Kocoa trees and Kocoanut groves,
And maple sugar trees in droves—
Past jars of butter, milk and kream,
And on to Kaldrons from which steam
Came in fluffs of cloudless white,
Carrying whiffs of pure delight—
Aromas to the eager nose
In aromatic essence rose."

Illustration—**Tim and Tot Gain Valuable Knowledge**

"Said Spic and Span then, 'Would you know
The things that in these Kaldrons go?
There's sunshine caught in sheerest gleam—
There's fat and strength within the cream—
There's heat and energy and nerve
In every sugar grain we serve.
The fruits and nuts, of course, you know,
Cause eyes to sparkle, cheeks to glow.
'Tis "Good and Healthy," Klean and Klear,
"Purity" is the watchword here!' "

Illustration—**Kandy Is Strength**

"You can't get strong unless you eat
Kandy that is pure and sweet;
Why, don't you know the chocolate bar
Helped our soldiers win the war?
In every kit you'd always find
Kandy of some make or kind;
While Alpine men its fame bespeaks,
It gives them strength to scale the peaks.
The reason that you love it, too,
Is just because it's good for you."

Illustration—**Tim and Tot Are Joyous**

"Tim and Tot just danced in glee,
They were happy as could be;
To find the thing they loved best
Of their foods, led all the rest.
And as they danced there came to mind
Their former weakness, ere they dined
On the healthy food of Kandy-land;
And, running blithely, hand in hand,
They flew to play in Kandy-glee
In a Kandy playground they could see."

Illustration—**The Kandy Playground**

"In Kandy swings they merrily swung
On ropes of Licorice firmly hung;
They bowled within the playground halls
With round red globes of Peppermint Balls.
Afar they spied a hill of snow,
But found it made of Marshmallow;
They gaily slid on Kandy sleds,
With Kandy Kaps on top their heads.
But suddenly they heard without
Noise and yells and angry shouts."

Illustration—**The Angry Mob**

"All Kandy Kingdom ran to see
What all this dreadful noise could be.
They found a mob of angry men
And women at the gates; and then
Tim and Tot stared with surprise,
They could scarce believe their eyes!
For there at the gate, and filled with ire,
Were Mom and Pop and the Village Squire!
The constable, too; and 'twas plain to see
That they were as angry as they could be."

Illustration—**Healthy Little Tim and Tot**

"For they had seen the Kandy-elf
Carry the children away with himself,
And they had to follow as fast as they could
Through field and hill and stream and wood;
But when they all saw Tim and Tot
So fat and rosy, they could not
Believe their eyes and their anger died,
But changed to joy as they quickly cried,
'What has changed you and made you well?'
They said, 'We'll show you, but we can't tell.' "

Illustration—**The Gates Open to "The Password"**

"Tim and Tot would have opened the gate,
But the Kandy Kaptain kommanded, 'WAIT!
We have marched and the latch shall not be stirred
Till the password to Kandy-land shall be heard!'
The Kandy soldiers their shields did don,
With the war-cry 'Purity!' blazoned on;
But the fat little elf stretched high his head,
' 'Tis "Good and Healthy," ' he softly said.
' 'Tis "Good and Healthy," ' the people cried,
And the gates pushed back, they rushed inside."

Illustration—**The Big Celebration in Kandy-land**

"Then Kandy-land did celebrate
In a gorgeous, brilliant Kandy fete,
With Kandy lanterns, Kandy fire
And Kandy bands. The Village Squire,
The Constable, and Mom and Pop
Ate and danced till ready to drop.
They were full of vigor and vim and pep,
Dancing the very most difficult step.
'Hurrah for Kandy-land!' they sang
Till the Kandy hills and woodlands rang."

Illustration—**Adieu to Kandy-land**

"Then they thanked the King and all his men.
'You've made us all feel young again,'
They said, 'and we are glad to know
The food that makes our children grow;
It's made us, too, feel strong and well.
We'll go into the world and tell

The other grown-up children there
That Kandy is the healthy fare!'
So the banners waved and the trumpets blew,
All Kandy-land bade them Adieu."

Illustration—**Home Again**

"They turned about and the happy band
Started away from Kandy-land—
When, lo and behold! to their great surprise,
As the gates they passed, they found their eyes
Looking right into their own home town,
With its turrets and gables and fields of brown!
So, back in their village street once more,
They stopped before their confectioners' store,
And in the windows clean and wide
The Kandies of Kandy-land they spied."

Illustration—**Hurrah for Kandy-land**

"Then joyfully 'round the Confectioner's shop
The Village Squire and Mom and Pop,
The Constable and Tot and Tim,
All joined hands and danced with vim.
'Now that we know what to do,
Why, every day and Sunday, too,
We'll all have Kandy, pure and sweet,
The best of all good things to eat.
For "Good and Healthy" we will stand,
The Key to the Kingdom of Kandy-land.'"

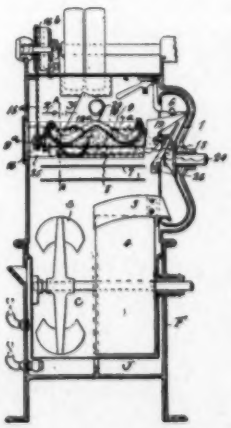
The time is ripe to GO. The N. C. A. Convention to be held in May at Chicago is an opportune time to launch this campaign. Let's get ready right now and put this idea into ACTION. Successful Selling is yours—the moment you do.

What's New

The Western Confectioner's Association has accepted Los Angeles, California, invitation to hold their 1925 convention there. New officers for the coming year are: Eugene B. Gimbal of Gimbal Bros. Candy Co., San Francisco, President; Charles F. Adams of Idaho Candy Co., Boise, Idaho, First Vice-President; A. C. Baker, Brecht Candy Co., Denver, Colorado, Second Vice-President; George Startup, Startup Candy Company, Provo, Utah, Secretary-Treasurer.

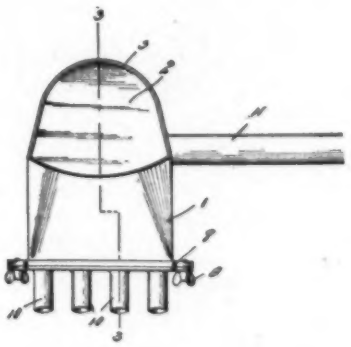
Otto G. Beich succeeded the late Fred Amend, Sr., as manager of the Chicago factory of Paul Beich, Inc.

1,485,437. MACHINE FOR COATING CHOCOLATES. Asbjorn Sonsthagen, Leytonstone, England. Filed Feb. 17, 1922. Serial No. 537,228. 9 Claims. (Cl. 91—3.)



1. In a core coating machine, the combination, of a reservoir for the coating material; means for emulsifying the coating material; means for conveying the coating material from said reservoir to the emulsifying means; a trough for distributing the emulsified material upon the cores; means co-operating between the emulsifying means and said trough for conveying the emulsified material from said means to the trough; and means for conveying the cores for distribution of the emulsified material thereupon from said trough.

1,485,367. CANDY-RUNNING IMPLEMENT. Albert T. Burnett, Los Angeles, Calif. Filed Oct. 4, 1922. Serial No. 592,336. 1 Claim. (Cl. 107—52.)



A candy pouring implement including a body having a bottom, side walls, a curved top wall on the front portion thereof, and a curved rear end wall, said top and rear end walls defining an opening in the rear of the body with the upper edges of the side walls for receiving material to be poured, the forward end of the bottom being upwardly inclined, the forward end of the body having a substantially narrow opening extending across said body, an annular flange extending therefrom, a handle extending laterally from one side of the body, a spout member having an annular flange for fitting the flange on the body, and means for removably securing said spout member on the body, the spout of said member being inclined upwardly with relation to the body so that the upper end thereof terminates in the plane of the upper edge of the side walls whereby the rear end of the body many be dipped into a receptacle containing candy for receiving a charge therein, said body being adapted to hold the charge until it is desired to be poured by moving the forward end of the container downwardly so that the charge will run down the inclined wall of the bottom and out through the spout.

Fondant in Principle and Practice

The Second of a Series of Practical Articles on

The Manufacture of Candy

by George J. Shaler

IT is a hopeless task to try to build successfully in any direction on a poor foundation. Whether a man is to build a skyscraper, a cottage or a chocolate cream drop he must know how to choose the materials and how to put them together in such a way that the whole structure will last.

Let's Call Fondant by Its Right Name

Fondant, raw cream or cream all mean the same to the candy maker. The first is preferable, for it is the logical term to use. Fondant, as the word signifies, is the base of a large part of the candy made in the industry. Fondant is not cream and not raw: it seldom contains any real cream so why call it so? The use of the word cream to signify fondant simply complicates the phraseology of instructions and formulae by introducing an inaccurate and complex nomenclature. Why neglect fondant and substitute cream, then search through your vocabulary for adjectives sufficiently descriptive to convince the reader that you really mean *cream* and not sugar? If a man is writing on fudge manufacture it should not be necessary for him, in mentioning cream to prefix it with cow, sweet, dairy or heavy: 18 per cent, 20 per cent, 22 per cent cream should mean an emulsion from the dairy containing that percentage of butter fat and should mean nothing else.

Fondant contains only sugar and water or sugar, water and corn syrup: in view of this fact it is amazing how many and varied results are obtained in its manufacture. Before the reasons for these differences can be made clear it is necessary to consider to some extent the theoretical composition of the product.

The Composition of Fondant

A saturated solution of sucrose (sugar) in water at normal temperatures consists of approximately 67 per cent sugar and 33 per cent water. It is of course impossible to make such a solution outside a laboratory and it is doubtful if even there it is ever really accomplished, but for all practical purposes granulated sugar and tap water are satisfactory.

As this syrup is heated it will constantly absorb more sugar but as it cools again this excess sugar will crystallize out. On these facts are based the fundamental principles underlying the crystallization of candy and the manufacture of rock candy.

If a number of different solutions of sucrose, invert sugar, and water are made up in differing proportions of solids and 25 per cent water and set away for several months each will show a precipitate. In some cases this precipitate will consist of sucrose and in others dextrose, but the clear syrup on top will in every case be made up almost exactly as follows:

Sucrose	27.5
*Invert	49.5
Water	23.

These figures are interesting because they show that by the proper combination of invert sugar and sucrose a syrup may be obtained which will be stable at a concentration considerably higher than that possible with sucrose alone. Each ingredient prevents the crystallization of the other.

Controlling the Crystallization

When sugar and water are put in a kettle and cooked to 24° F. the result is a supersaturated solution and will crystallize. If left to itself and undisturbed the crystals deposited will be coarse and the whole body will have a granular translucent appearance. In other words, it will grain. If stirred throughout its term of crystallization the crystals will be smaller but still will form so rapidly that they will be too large for fondant. This is due to the fact that there is an insufficient quantity of noncrystallizable sugar present to retard the action to a point where it may be mechanically controlled. A long, slow cooking would produce enough invert sugar to accomplish this end, but the resulting product would in all probability be yellowish. An acid or cream of tartar would produce invert sugar quickly and without discoloration, but in an unknown quantity. To avoid the possibility of these variables it is good practice to add a fixed amount of retarding ingredients in the form of invert sugar or corn syrup or both.

When the fondant has been produced by the crystallization of the syrup under constant agitation (the action of a spade or beater) it is nothing but a mass of microscopic crystals surrounded by a syrup.

Variations in the fondant are due solely to differences in the composition and quantity of this syrup. The sugar in the original syrup will

*These figures were obtained with the use of "Nulomoline" as the invert sugar.

Announcing—

A Series of Practical Articles on The Manufacture of Candy

by A Practical Candy Man

Mr. George J. Shaler the author of this series of articles has served his time at the candy kettle and has been associated with some of the foremost confectionery manufacturers in the United States and Europe, from Candy Maker to General Factory Manager. Mr. Shaler's next article will be:

The Manufacture of Marshmallow

crystallize until the water which formed that syrup is saturated with sugar in solution and then stop. The quantity of water present depends on the height to which the batch was cooked. The more water the more syrup and therefore the softer the resulting fondant. The concentration of this syrup in fondants of the same composition will be the same no matter how high or how low the cook.

The composition of the syrup is governed by the formula used in the setting up of the original fondant batch. This is apparent from the figures given for fixed syrups. If sufficient invert is present to produce the proper balance, the syrup with which the sucrose crystals are surrounded will be composed of 23 per cent water and 77 per cent solids.

The Action Which Takes Place

As the fondant is beaten the molecular disturbance promotes crystallization. This action is slow in starting, but once some crystals are formed they act as a base for others and the final action is rapid causing the sudden set at the end of the process. The last of the crystals take form when complete manipulation of the body of the fondant is no longer possible owing to its heavy consistency. These crystals forming undisturbed cement the others together into a solid mass. The formation of crystals releases latent heat and the entire mass rises in temperature.

When the batch is left to "sweat" the moisture and syrup redistribute themselves throughout the crystals and break up the formation of cementing crystals. The fondant "mellows" and becomes workable again.

There are two distinct differences in the action of corn syrup and invert sugar when used in fondant. The retarding of crystallization caused from corn syrup is due not only to the dextrose present but to the dextrin (or British Gum) which by increasing the viscosity of the syrup mechanically holds the molecular activity back.

Where invert sugar is used the action is purely one of balance, while the extremely hydroscopic nature of the levulose (in the invert) tends to retain the moisture and so keep the fondant soft.

It is evident that once the fondant is finished we have two definite substances to deal with: crystallized sugar and a sugar syrup of controllable density. The importance of this density will be taken up in a later article, but at present we will consider the fondant only as a direct manufacturing problem.

Evolution of Fondant Making

For many years the only method of making fondant was to dissolve the sugar in a quantity of water great enough to insure a cook sufficiently long to produce the right balance of invert and crystallizable sugar.

The writer distinctly remembers an old German cream cook who could make glazed dipping fondant in only one way. His formula produced a very fine product but we believe called for more water than necessary even for his method of cooking.

50 lbs. Confectioner's A sugar
15 qts. of water

This mixture was put in a copper kettle and cooked over an open furnace to 248° F. then poured on a steel slab. He insisted that the syrup lie until cool enough to be perfectly comfortable to the hand and then be turned up with a spade. The resulting fondant was very short and required a high temperature in dipping.

Some of the sugar refiners market an "A"

sugar especially for the manufacture of white fondant without the use of a doctor. It is the weakest sugar obtainable and is desirable in some cases.

Acid as "Doctoring" Agent

The next step up in the process of fondant making came with the addition of an acid which by its strong action in inverting a portion of the sugar made possible a decided reduction in the quantity of water necessary. It was no longer necessary to prolong the cook. An average formula for this class of fondant has been supplied by a successful cook of long experience. It would be simple to prepare such a formula, and any candy maker could cook a batch of pure-sugar, cream-tartar fondant without one, but in view of the comment following it is best to state that the following is typical:

100 lb. granulated sugar
3 teaspoonful cream tartar
Water to dissolve

That formula may be disputed by many candy makers and to the best of their belief it may be wrong. In fact it is very probable that it would be wrong, for a few men get the same amount of cream of tartar in a teaspoonful and nearly all cooks depend on that measure for small quantities. In that very fact lies the great danger of acid doctoring. If it requires only three teaspoonfuls to invert sufficient sugar to balance a one hundred pound batch the exact measure of that three teaspoonfuls is of greater importance than the exact measure of the sugar. A variation of five pounds in the weighing of the sugar would amount to only 5 per cent, while the contents of one man's "three teaspoonfuls" might easily be two or four teaspoonfuls to another. This means 25 per cent in one direction or 33 per cent in the other and as the ingredients balanced at the original formula this would be the same as varying the sugar to the same degree. No cook would consider such a change in the sugar content for a moment, but the possibility of teaspoonfuls being different never occurs to him nor would that much difference bother him if he did think of it. The variation in the strength of different lots of sugar is not touched on as it is supposed to be understood and allowed for by the cook.

Theoretically, the acid used in inversion is not consumed, so any amount would, in time, with sufficient heat, invert the entire batch. Conditions of cooking therefore must be identically the same for each batch if these batches are to turn out the same. A few minutes more or less in the time of cooking makes considerable difference in the resulting invert content.

And Then Cane Corn Syrup

All the conditions above prepared the candy maker to welcome the advent of corn syrup. While it is possible that only a few understood the true significance of doctoring with it, the results spoke for themselves.

Corn syrup may often be added to cheapen goods, but this is only an added advantage which is often abused. Primarily it is a means of adding an almost fixed percentage of non-crystallizable sugar to a batch. Incidentally the gum in the syrup has a very distinct and powerful influence in retarding crystallization but this is figured in with the other property.

The writer has cooked fondant from sugar and corn syrup in innumerable different ways and proportions. Typical formulas are given below for comparison and as a basis for comment.

Some Popular Formulas

No. 3. The most common combination in use is the 80/20.

48 lbs. sugar
12 lbs. corn syrup

Just enough water to dissolve: cook to 236° F. to 248° F. according to the use to which it is to be put, then cool and heat.

Generally all the ingredients are added at the same time.

No. 4. In another formula from a well known house the sugar is cooked 245° then the corn syrup added and the whole cooled and beaten.

No. 5. Still another of the same proportion specifies that 5 lbs. of the corn syrup be cooked with the sugar to 243°, then the remainder added and whole cooled to 98° F. and beaten.

No. 6. From the far west a very good cook advises that 80/20 fondant is best made by cooking the sugar and half the glucose to 240° then while turning (beating) add the balance of the corn syrup.

Originally there was a good reason for this latter method. In the old times when corn syrup was not as carefully prepared as it is today it had to be cooked with greater care and as little as possible. Hence the habit of cooking the sugar first and a little higher than the batch and then adding the corn syrup cold. This corn syrup was generally more acid in its reaction than that sold today, which caused the inversion of a considerable part of the sugar in the batch when the syrup was cooked through. The man responsible for No. 5 probably had very strong sugar to contend with or was cooking with superheated steam. He required additional protection against graining.

No. 6 represents a batch cooked from beet sugar. If of first grade this sugar requires heavier doctoring than regular cane sugar and this cook realized it and took this way of accomplishing his end.

The first method (No. 3) is the one commonly used at present. Every manufacturer aims to keep his product up to standard and the present keen competition forces him further. He cannot afford to have a competitor put out a product superior to his in either color or uniformity, and the easiest way to keep the acid content constant is to neutralize it as completely as practicable. While the usefulness of these precautions has largely passed, some candy makers still cling to them for all cases. There are still

times and conditions when they should be resorted to.

If unusually closely doctored fondant is required, as in the case of bon bon dipping cream, the sugar should be cooked first and as quickly as possible, then the syrup added. Again if the batch is to be set up with all residue crystal syrup in place of sugar and cooked under atmospheric pressure, the addition of the corn syrup after the sugar is cooked is a decided help in maintaining the strength of the finished fondant. This subject will be treated later in the article.

All the above data and figures are based on the same formula calling for 80 per cent sugar and 20 per cent corn syrup, which is the most generally used proportion. A large candy plant making various lines of candy usually makes up a number of different combinations for different purposes. These are most conveniently made in regular ratio calling for even figures; thus the highest grade would be 90/10, the next 80/20, then 75/25 and 60/40. Below 60/40 is seldom worked, as the manufacture is so difficult and the time consumed in beating so great that it is simpler to add the additional corn syrup, if a higher proportion is desired, when the fondant is melted for casting. At this point it is sometimes worked into the batch raw and sometimes in the form of a frappe. We are inclined to prefer the latter method, as the beating with albumen lessens the tendency to toughness in the finished goods.

Reducing Number of Stock Fondants

This idea of adding corn syrup and also that of cooking a bob or syrup batch and graining this with fondant are used quite generally throughout the industry, mainly because it enables the manufacturer to reduce the number of stock fondants necessary. It has many and obvious advantages.

For instance, if a plant carries only 90/10 and 75/25 fondant in stock and requires goods of these proportions and also some which when finished will analyze 80/20, these 80/20 goods can be made from either kind of fondant by the following methods:

Bob: 50 lbs. Sugar
17.5 lbs. Corn Syrup

67.5
100 lbs. 90/10 Fondant
20 lbs. Frappe made with ½ sugar and ½ corn syrup

Finished Batch: 150 lbs. Sugar
37.5 lbs. C. S. U.

If it is not considered desirable to use a bob, the same result will be obtained by using:

90 lbs. of 90/10 Fondant
12.5 lbs. of all C. S. U. Frappe

102.5

Finished Batch: 90 lbs. Sugar
22.5 lbs. C. S. U.

From these figures it is readily seen how the fondants may be worked up or down in sugar content.

Corn syrup has other advantages in fondant aside from its grain-checking powers. Before its introduction into general use the manufacture of a cream center which would keep soft long enough for shipment to any reasonable distance was considered an impossibility, but the syrup changed all that. It has considerable power of retaining moisture and of checking fermentation by raising the concentration of the syrup in the fondant to a point where yeasts will not grow. Still corn syrup, no matter how carefully handled, is liable to toughen the goods by the introduction of dextrin. For this reason it is still considered desirable to make the finest creams of pure sugar. To do this the manufacturers are turning to invert sugar.

Centers made with invert are pure sugar with all the advantages of pure sugar candy and none of its former disadvantages. Fermentation is effectually checked, toughness avoided, the sweetness unimpaired and the long life desired assured by the hygroscopic nature of the levulose which comprises practically half the dry weight of the invert.

Fondant made with invert sugar is handled in the same way as that made with corn syrup, but as no advantage in price is gained by increasing the amount used, the 80/20 basis is generally adhered to. The invert sugar is put in the kettle with the sugar and sufficient water to dissolve the sugar and the batch cooked to 238° to 242° F. It should be cooled quickly. The fondant can be handled in melting down in the same way that a glucose fondant is handled, but as prolonged heating is inadvisable, it is generally recommended that it be used in the preparation of centers by melting with a bob.

There are certain general rules which should govern the cooking and handling of fondants. These rules are good in all cases, as they not only point out only the best way under ideal conditions, but the steps necessary to overcome any special cases are easily evolved from them.

Have all sugar dissolved before the batch begins to boil.

Steam for a few minutes to insure the washing away of any crystals of sugar adhering to the sides of the kettle.

Cook as quickly as possible. A slow cook produces a yellow, weak fondant.

Cool as quickly as possible. Slow cooling tends to weaken the fondant.

Beat evenly and thoroughly.

If you are not familiar with *all* grades of sugar and their different qualities, get in touch with your refiner. Sugars are made for different purposes and the price differential from base does not show the principal advantages of each.

In many cases it is possible to use up all the residue crystal syrup from a plant in the manu-

(*Continued on page* 49)

Leakage and Pilferage Losses on Raw Materials

By Albert Adams Lund

This is the last of a series of seven articles on the quantity aspect of raw materials, namely:

1. **Metric and British package weights,**
2. **Irregular package weights,**
3. **Weighing,**
4. **Tare weights,**
5. **Shrinkage, absorption and soakage,**
6. **Drainage,**
7. **Leakage and pilferage.**

This series completes a unit in the larger group: "Customs of the Raw Material Trades and their relation to the Candy Industry." Future articles will embrace the quality and contract phases of this subject.

Follow a Case of Walnuts

TIED up at one of the docks in the New York harbor is a big French steamer. She is discharging a cargo which consists for the most part of shelled walnuts. Each case is tied with a rope and lowered from the end of a crane to the dock below. Now and then the clocklike precision is interrupted by a rain of walnuts from a case overhead. The heavy ropes have crushed the flimsy lumber of one of the Bordeaux cases and caused it to collapse. Thereupon, a rough-looking dockhand with a large broom sweeps the nuts into what is known as the "junk pile." (The case, carefully disentangled from the rope, is added to the cooperage pile where there are perhaps a hundred others in varying stages of disrepair.)

At the junk pile one finds a heterogeneous mass of walnut meats and dock sweepings, often three or four feet high, which is eventually dumped back into the re-coopered cases or used to fill some of those which are slack. Those who call for their loads first get the full cases; those who come last take what is left and place claims against the steamship company, with one chance out of ten that they will obtain reimbursement.

These goods will be shipped out to you, wherever you are, and billed on the packer's weight of 55 pounds net per case. If you have a reputation for being a crank, you may get inspected cases; if not—(?)

Specifications Which Reduce Losses

Leakage loss is a phase of raw material waste with which none of us can disclaim painful familiarity. In a sense, a certain measure of responsibility in this direction rests with the man who buys the material. Often it is in his power to limit his liability for the loss by the terms under which he buys, or he may prevent the loss entirely by employing cooperage specifications which will insure the goods safe arrival. F. O. B. shipments which come through without loss give us a false sense of security and we are apt not to question the terms of the seller's quotation until one fine day we take a rattling big loss and wonderd why the shipper will not make good. Were we to have insisted on delivered or f. o. b. destination terms (let the freight be charged to whomever it may be), that same shipper would probably have consented to your terms rather than risk losing the order. If your factory is at Chicago, and a man offers you a bill of goods "f. o. b. distant city, freight allowed," you have a technical advantage to gain in countering "f. o. b. Chicago." If he says "f. o. b. Oshkosh," get him to make it "f. o. b. Chicago, plus freight charges from Oshkosh." Attention to this detail will spare you a great deal of anxiety, in addition to dollars and cents.

The importer who said that his losses for twelve months through breakage, pilferage and leakage averaged one per cent of his cost was not imagining things. It was only his ability to spread these intermittent and varying losses over great quantities of material which enabled him to come out whole. Not so some unfortunate buyer who may suffer a loss which is out of all proportion to the smaller quantity which he uses.

On the other hand, there may be many oppor-

tunities for the buyer to profit by assuming these risks, as for instance, to obtain lower prices, deal closer to the source, etc. In such cases, he would do well to study carefully the type and quality of cooperage which is to be furnished by the shipper. Until recently, there has been little appreciation on the part of American manufacturers of the growing importance of proper cooperage specifications on long distance shipments. Abroad, we have been excluded from a great many markets through our failure to comply literally with what appeared to us to be needless and ridiculous packing details. Yet, were shipping conditions not such as to justify this added insurance, your thrifty foreign tradesman would be the last one in the world to demand it. We, in our industry, might profit by his example and exact of our shippers cooperage sufficient to carry the goods to our doors without serious loss of quantity. The few cents difference in packing cost is far more than offset by the protection against leakage, if not pilferage losses.

To this end, we must consider the quality as well as the construction of the package. We have alluded to the flimsy character of the Bordeaux walnut case which collapses under the tension of the ropes. With the Chaberte case this does not often happen. The same gum oak barrel which is used successfully for semi-solids, such as nougat cream, is entirely unsuitable for condensed milk and other materials of similar or thinner consistency. Likewise, once-used barrels have a definite place in the packing departments of the vegetable oil refiners, but are discreetly avoided in the packaging of fermentable syrups, particularly molasses.

Granulated or powdered materials have an annoying way of creeping around wax and paper liners to sift through the crevices between boards and staves. (The liners themselves provide a valuable weapon against leakage, but they are easily torn or shifted out of place.) For this reason, the packages which contain the sifting type of materials should be carefully matched, tongued and grooved. This applies to the heads as well as the staves of barrels. This would appear to be an indispensable precaution on sugars, starches, salt, gelatine, powdered gums, acids, cream of tartar and cocoa. Other means which may be employed to prevent leakage are such as the tin liners of egg albumen cases, double or paper-lined bags, etc.

The steel drum for corn syrup is a real boon to manufacturers whose plants are within trucking range of the local filling station. But notwithstanding the economy effected through the elimination of leakage, the expense of freighting this expensive container both ways makes it impracticable for out-of-town shipment.

Perhaps our great problem is to reinforce the standard package against the careless handling it will receive en route. The other day we watched the unloading of a car of condensed milk. Apparently lacking the usual rope mat, the men grabbed a couple of burlap bags and put them on the platform level to break the fall of the barrels as they were lifted down from the car. As the platform man took hold of each barrel, to ease the fall, the 600 pounds of milk landed on the rim with a force that bent the staves outward and permitted the milk to leak through. This treatment is even more common on cases, particularly heavy cases, which are allowed to fall on a corner or on edge from the height of the car or truck from which they are being unloaded. The ordinary nailed case will fall apart under these conditions or at least distribute a portion of its contents over the dock before it can be recoopered. The likelihood that our own goods will be subjected to the same method of handling emphasizes the value of double-duty case-ends (usually consisting of substantial wood battens fastened securely to extended sides as well as to the ends of the case), wood, wire and steel strapping, etc. To check the severe losses on imported nutmeats, certain of the importers are now specifying that Spanish box almonds must be strapped two or three boxes to the bundle, and that French walnut cases must be bound with either wood or wire straps.

DO YOU KNOW:

—That on a fifty-gallon barrel of 40% vanilla extract every ten degree variation in temperature changes the volume almost one-fifth of a gallon?—(and that 1-5 gal. @ $10.00 gal. —$2.00).

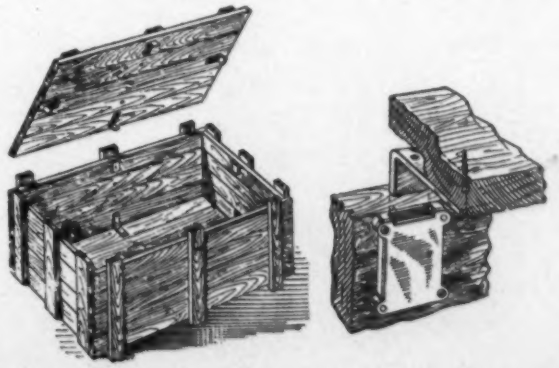
—Why glucose and maple sugar will leak in warm weather?

—What type of cooperage to specify to prevent leakage and pilferage losses?

—Why molasses barrels are never filled to the top?

These are subjects which vitally concern you. Read what Mr. Lund says about them in his article.

A most striking example of the leakage of a



How the Thief-Proof Box is Built —Literary Digest

solid material is afforded by Spanish No. 1 peanuts, whose smooth, round surfaces will not permit them to build up (as with almonds) in such a manner as to block the hole and prevent further egress. Moreover, these holes are quite common, originating with the hook of some careless longshoreman, a protruding nail, a weak seam or a rat. Once started, the hole will gradually empty the entire bag. (Compare this with cashew nuts in tin-lined cases, the only nut which is not in some measure subjected to this loss.) Caution your men not to walk away when they discover a break in a container without temporarily mending it themselves or at once notifying the man who attends to the cooperage to do so!

Often the form in which a material is shipped will have a great deal to do with the extent to which it will leak. Take, for example, honey or maple sugar. The price-quote of the average apiarist reads "To avoid leakage, all honey is shipped crystallized unless otherwise ordered." Liquid honey will leak on the slightest provocation, which is one reason why the more expensive grades come packed in tin. Maple sugar, on the other hand, provided it has not been made properly, will absorb moisture from the air, and becoming wet, the liquid portion will "drain" or leak out.

Storage Conditions that Affect Leakage

Another factor which may be responsible for large leakage losses is the conditions under which the goods are stored. During hot weather, it is not unusual for corn syrup to absorb moisture from the staves of the barrel and when these become porous, leak through. The same is, of course, true of the two sugars just mentioned, honey and maple sugar. Time was when New Orleans molasses came packed in cypress barrels with wood hoops. The gases of fermentation escaped through the porous wood, and thus by permitting a gradual seepage, the danger of an explosion was avoided. To this day, this product is treated with great respect. In the first place, it is shipped from the plantations in tank cars and barreled at the point of distribution. Oak has superseded the cypress barrel; iron hoops have taken the place of wood hoops; but instead of filling the barrels to the top, a certain amount of room is left to take care of the expansion. On New Orleans molasses this space is equivalent to from one to two gallons, while on West Indian, which is subjected to tropical temperatures during a considerable part of its voyage here, it has been found necessary to allow as much as five to seven gallons. Yet, despite the precautions taken on New Orleans molasses, local refiners estimate their losses through fermentation and leakage, during transit from the South, to vary between one and two per cent.

Sifting and Spilling

The word "sifting" has still another significance. There is an abrasion loss on shelled nutmeats which is at times considerable. A continual handling of the packages causes the nuts to rub together, removing particles of husk and meat which eventually settle or "sift" through to the bottom of the package in the form of a fine powder or dust. In extreme instances as much as two or three pounds of this material may sift through to the bottom of a single cask or bag. It is a warning which "he who runs may read": the more you handle these materials, the less you will have left.

Another loss which is comparable to leakage, is spilling. Spilling is downright carelessness. Not long ago we saw a boy fill half a dozen extract bottles by shoving one after another under the spigot without shutting off the flow of the precious fluid between bottles. When a solid material leaks, sifts or is spilled, some portion

of it may be salvaged; when it is a liquid which leaks or spills, the loss can never be recovered. One answer to the spillage problem is the "drip stock" which the essential oil people sell to the soap manufacturers. Drip pans are placed under each faucet to catch the drip or overflow. But whether it is a stock clerk or a candy man who with a spill here or a spill there, pays tribute to this thief of raw materials, his carelessness is equally inexcusable.

Pilferage and Sampling

Among importers and distributors generally, the recognized function of the dockman is to represent their interests on the ground and above all, to see to it that the lines deliver all full packages. When this cannot be achieved readily, it is more or less common practice to slip the checker a couple of dollars to close his eyes while the dockman appropriates a portion of someone else's merchandise or switches the packages. In this manner, the frequent exhortation tc "get all full cases" is literally obeyed.

Apparently imbued with an extreme sense of his obligations to his boss, a particularly worthless specimen of dockman approached the importer several months ago and the following conversation ensued:

"Boss, I earned my salary this week, all right!"

The importer, somewhat incredulous, "You did what?"

In a whisper, "I got you a bag of filberts."

"You got *me* a bag of filberts? You mean not my property?"

"Yea. The checker let me take it and I gave him a dollar and a half." When he was made to get hold of the truckman to take the bag all the way back to Erie Basin, and stand the dollar-and-fifty-cent disbursement himself, this dockman was at a complete loss to understand his employer's ingratitude. Apparently, he had never worked for an *honest* employer before!

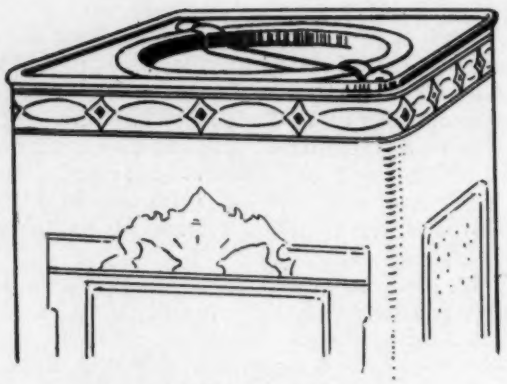
Most of the evidences of pilferage which we find on the packages shipped in to us, point to employes of the various transportation and trucking companies in whose custody the goods remained while in transit. Because of the fact that these people are responsible to their companies for the safe delivery of the numerical tally of unbroken packages, their work must be performed with extreme cleverness in order to escape detection until after the consignee has signed for the shipment "in good order." Consequently, bags will be re-sewn, case nails reset in their original holes, seals and straps put back in position, and tool marks obliterated in such a way that doubt is often cast upon the shipper as to whether he did not make a mistake and leave out something.

Think of the sailors on the high seas with no other amusement for days and weeks at a time! As a rule, only a few pounds or so will be removed from each package, and unless by some chance the goods are weighed as they are taken off the steamer, these small amounts will not be noticed until the customer starts an argument with the shipper. When he receives twenty or thirty slack cases of walnuts out of a fifty case shipment he may not be blamed for losing his temper.

While we must admit that we cannot stop a good thief when he once sets his mind on pilfering our materials, it is quite possible to discourage the novice, and by making the work of the professional more laborious, render it less extensive as well. The gangs of professional pilferers which operate continuously in the freight yards and on ferries, must perform their work swiftly to avoid detection. Some of the truckman's best efforts are put in on these same ferries where he is crowded into dark passageways with just enough time to slack half a dozen packages and hide the swag under the driver's seat. Where the thief is pressed for time the ordinary precautions of strapping, etc., will prove effective.

Make Truck Owners and Drivers Responsible

But whether or not such devices will serve the purpose of preventing pilferage, we owe it to ourselves to hire responsible truckmen. It was reported not long ago that the raisin operators of California were taking steps to enact a state law requiring truck owners and drivers to take out bills of lading, to prevent pilferage as the raisins are hauled. That is one way to lessen the evil. Although we know of several concerns who withhold a certain amount of their own truckmen's pay as a guarantee fund to insure



The Pilfer-Proof Vanillin Tin

them against this loss, it would be well in any event to limit our business to those truckmen and trucking companies who can furnish satisfactory bonding references.

One can think of many cases where the guaranty fund method would impose a severe and unnecessary hardship on reliable and conscientious truckmen. Many companies load their trucks in the late afternoon and lay them up in a garage or service station overnight so that no time will be lost in beginning the routes the following morning. During the night everyone from the mechanics to the hangers-on- have an opportunity to get in a little skillful work on the contents of the trucks. The truckman who signed for his load would be held accountable for these losses.

The Thief Proof Container

For sections of Latin America where transportation is largely accomplished by mule-back, the customary cooperage specifications provide that all case goods must be sewn tightly in burlap and the exteriors left unmarked as to contents. Apart from disguising the package from the natives and making all packages look alike, this novel wrapper (which is similar to the one on date cases) makes it difficult if not impossible to open the cases without injuring the burlap.

This is only one of many devices used to thwart what has become a world-wide evil. The January 19th issue of the Literary Digest describes a thief-proof box designed to prevent pilferage by making it impossible to tamper with without showing signs of breakage.

"The box resembles a standard export case, but one extra cleat, used as a seal, is provided around the center. Each intermediate board is fastened on the inside of the case to the center cleat by a screw, preventing such boards from being shifted or raised. Four angles screwed into the center cleat are fastened to the bottom of the case on the inside. The top is secured by a device consisting of four automatic locks, which are attached to the inside of the case, the screws extending into the center cleat. These locks automatically operate as the cover is closed, thus locking the case completely and making it impossible to open it without showing signs of breakage."

Would not such a package seem highly desirable for an item like shelled pistachios, whose normal price range is between $.90 and $1.25 a pound? Tin-liners, provided they are of the heavy plate which is used for cashew cases, might effectively prevent their theft, but thin gauges succumb to the blade of the ordinary pen-knife.

Just before the first of the year one of the vanillin manufacturers commenced using a new type of friction-top tin having a metal seal which holds the cover in place in a manner which prevents its being removed without detection.

The interest manifested by the Department of Commerce, Chambers of Commerce, and trade bureaus everywhere, in checking this growing practice, suggests the desirability that the trade get together to standardize on cooperage specifications for those materials which are so largely employed in our industry. This is the logical answer to the shipper's protest against special packings for the few who take the trouble to specify them.

Sampling

Sampling is one of the commonest and most generally under-estimated losses on raw materials. Although a small army of Federal inspectors, city and state health inspectors, owners, brokers, and salesmen are kept constantly busy sampling and re-sampling every lot of raw material which comes into the market, the supplier's sales to you on packer's weights contain no provision to offset this loss. There is so much of this sampling done, that not only is it difficult to imagine one's getting a lot of any size which has *not* been sampled, but it is not unusual to hear of some unfortunate fellow who made a five or ten case purchase, getting *all* sampled cases. To understand how this is possible, we must consider the manner in which the operation is ordinarily done. A Federal inspector, let us say, is commissioned to examine and sample ten per cent of a certain 100-case lot of walnuts. Being in too much of a hurry to have all the cases in the lot unstacked in order that he may choose his ten per cent at random, he takes the ten cases nearest to him, opens them up and draws his samples for the Appraiser's Stores. When the lot has been passed, Umphty-umph Candy Co. presents an order on the warehouse people for ten cases of walnuts. They took the nearest ten cases. Naturally, they are the same ten cases which not only the government inspector has sampled, but every other "hurried" person who had occasion to look at the lot. The average sample varies anywhere from two to ten pounds.

No doubt you have had the experience of leaving exposed to passers-by in the factory, an opened case of raisins or nutmeats. Do you re-

(*Continued on page* 39)

Leakage and Pilferage Losses on Raw Materials

(*Continued from page* 34)

call how quickly the contents of the case diminished? Every person from the boss down "put in his thumb and pulled out" a handful. Carry this sampling process one step further. People who examine goods in public warehouses often neglect to cooper them again before leaving. Thereafter, every person who passes the lot administers a loss to the unsuspecting owner. Then comes the day of reckoning. The lot is withdrawn from storage and a "free-for-all" ensues between the shipper, the owner and the warehouse to settle the claim for the short delivery. For this type of loss there can be but one real remedy: buy on re-weights or have an understanding with the supplier to accept your weights when the goods arrive.

Since illegitimate sampling and plain unvarnished pilfering both accomplish the appropriation of somebody else's property, they differ only in intent. The saying goes, "Unless you nail things down, the help will walk off with everything but the factory." Exaggerated though this is, you probably have at least one Happy Harry in your plant who helps the wife set table by taking home a pound of sugar or a half pound of nuts every night. While it may not be in line with your policies to forbid the occasional sampling of these materials, you must sooner or later adopt some measure of precaution against those with whom the tendency to sample has become a pernicious habit.

Volumetric Shrinkage

This is the last of the quantitative losses which affect raw materials. Alluded to in a general way in our article on tare, where we compared the relative merits of the weight and volumetric methods of computing raw materials, this loss is an important price factor on some of the materials we buy. That bottle of Scotch which you hid in the cellar last summer with a mental note that it was full to within an inch of the cork—when you stumbled across it during the holidays it was 'most an inch lower. Yet the seal was intact. Of course, you didn't stop to connect this phenomenon with the change in temperature which had come about in the meantime. Nor did you realize that the vanilla extract stored in your factory had gone through the same change while on your hands.

The principle that heat expands while cold contracts holds particular significance for us on materials which are sold on the basis of volume. Although the weight remains unchanged, the gauged or invoiced quantity increases or decreases according to the temperature to which the material was subjected at the time of gauging. Official gaugers allow for these variations according to certain fixed tables based on the expansion co-efficient of each material. As a rule, however, each supplier gauges his own barrels by filling them to within so many inches of the top and calling them 50 gallons. Consequently, a barrel of 40 per cent vanilla extract gauged at 80 degrees and invoiced as fifty gallons,

At 70° F. would dwindle to 49.82 gal.
At 60° F., 49.64 gal.
At 50° F., 49.46 gal.
At 40° F., 49.28 gal.
At 30° F., 49.10 gal.

This is almost a fifth of a gallon loss for every 10° drop in temperature (and good vanilla, by the way, runs from $8.00 to $14.00 per gallon). Take this factor into account when you buy goods on the volumetric basis.

Compare your total production over a year's time with the total poundage of materials purchased. Somewhere within this wide discrepancy are many serious losses which can be either stopped or accounted for once you realize the underlying causes.

Next Article:
"Fifty Desk Tests for Raw Materials"

A Story of Wallace & Company

One of a Series of "Little Journeys" Through America's Confectionery Plants

An Interview by Ralph G. Wells with

A. M. Kelly

President, Wallace & Company, Brooklyn, N. Y.

The purpose of this article and succeeding ones about confectionery plants in our industry, is to cite examples of manufacturers who are putting into everyday practice some of the management methods, factory practices, etc., about which Mr. Wells has been writing exclusively for THE MANUFACTURING CONFECTIONER the past twelve months.—Editor.

THIS IS a story of the management methods used in the operation of a successful candy plant well known throughout the country. The writer selected Wallace & Company because they were recommended by other manufacturers as a successful firm with an excellent reputation for business methods and quality of goods.

This firm occupies a six-story brick and concrete building on Washington and Park Avenues, Brooklyn. The products manufactured include bulk chocolates and package goods, and a number of bulk specialties of recognized quality. These include nougats, almonds, bon bons, turkish paste, paste specialties, caramels, gum drops, gum specialties, marshmallows, jellies, cordials, and hard candies. It also makes centers and other goods for various manufacturers. Everything sold is manufactured in the Brooklyn plant. The firm roasts and grinds its own cocoa beans, and makes its own chocolate coating. They make a complete line of high quality candies, so that customers can secure everything they need from Wallace & Company, with the exception of home-made goods.

The top floor of the building is given over entirely to the manufacture of gums and gum specialties. On this floor are several large dry rooms giving ample space, as the firm attributes much of the quality of its gums to the fact that drying is not forced. All centers, creams, and hard candies are made on the fifth floor. Nougats, marshmallows, cordials, and bon bons are manufactured on the fourth floor. Here is located also the dragee department for pan work.

Nearly all of the chocolates put out by this firm are hand-dipped. This department occupies considerable space on the third floor. On this floor hard candies and other specialties are packed. The second floor is given over to store room for finished stock, the offices of the manufacturing department and packing rooms equipped with long tables and endless belts for the packing of both bulk and package chocolates.

On the first floor are the main offices, sales room, and additional storage space for bulk goods and raw material. The roasting and grinding of cocoa is done in the basement. Chocolate coatings are made and stored on this floor. The firm also has large storage facilities for bulk goods in the basement, together with sugar grinders, sifters, and other equipment needed in preparing material for use.

The firm justly takes pride in its power plant. This not only supplies all of the power, electric current, and heat for this building, but produces a sufficient surplus so that both electric current and steam are sold to firms in adjacent buildings. Water is secured from two specially driven wells, yielding an unfailing source of pure water, the temperature of which is 54 degrees at all times. Near the power plant is located a sixty-ton ice machine.

During the trip through the factory the writer asked both Mr. A. M. Kelly, president, and Mr. H. Gunning, general factory manager,

Engine Room and Power Plant.

Chocolate Manufacturing Department.

to what they attributed the high quality of their product. They said that it was merely a case of using the finest materials and exercising great care in manufacturing processes. No expense is spared in getting the very best quality of raw material. Everything is purchased by sample and carefully inspected before it is used. As an illustration, they use only the best fresh print-butter. Incidentally, they find that print-butter is more economical than tub butter because there is less shrinkage and less waste. The former contains less water and more butter fat per pound. Also, tub butter is never weighed out by a store clerk so exactly. By having butter in quarter-pound prints, the exact quantity needed for each batch can be measured out quickly without delay, thus saving both material and time.

Much time and care has been spent in determining the exact proportions of material and the steps to be followed in the cooking and handling of each batch. These formulas are written down in a permanent form and great care is taken to see that there is no deviation in the essential features of the formula. The members of the firm lay great stress on the importance of taking plenty of time and not hurrying manufacturing processes. A majority of the employes have been with the company for years and understand that they are never to save time at the expense of quality.

Furthermore, this firm has never made use of dried eggs, absolutely fresh eggs being used exclusively in the manufacture of their candies. The same care is exercised in regard to many other things. They make a great many of their own extracts and flavors, in order to secure the quality needed. Scrap and tail ends are not reworked but are sold to the help at a reduced price.

Another rule is to make everything up fresh and finish batches promptly so that candies will reach their final form without being allowed to stand around and dry out. This is particularly true of certain grades. The company makes it an invariable practice to make up each order of nougat, marshmallow, paste, caramels, and similar products fresh and ship them to the customer just as soon as they can be wrapped and packed.

Much time is spent in cleaning the plant. Between eighteen and twenty-one per cent of the total payroll hours are charged to cleaning and straightening up. This seems like an unusual amount, but careful checking has verified these figures. Machines, kettles, tables, and other equipment are scoured thoroughly. Care is taken to prevent the accumulation of dust or small particles anywhere which might get into the batches or get on pieces and spoil either their taste or appearance.

As mentioned before, the firm has its own refrigerating and air conditioning system, and many of the manufacturing rooms, as well as stock rooms, are maintained at an even temperature by bringing in fresh air over brine pipes. Chocolate stock rooms are maintained around 63 or 64 degrees. The air in the chocolate dipping and packing rooms is changed every nine minutes and maintained at a constant temperature of from 60 to 63 degrees. The coating storage room in the basement is kept from 52 to 54 degrees all the time.

In the manufacturing of the best grade coatings grinding requires from forty-eight to sixty hours. No coatings are ground less than three working days.

While Wallace & Company follow the usual practice of bringing out many new items each season, nevertheless some of their largest selling pieces are those which have been on the market for years. A careful record is kept of the total sales on each variety, and every six months the slow-selling ones are eliminated and replaced by "good sellers."

Thirteen salesmen cover the country from coast to coast. Wallace & Company have found that it does not pay to hire the ordinary candy salesmen. They count among their customers some of the best-known firms in the country, and

Pan (Dragee) Department.

Gum Department.

Marshmallow Department.

for this reason find that it is necessary to have men of character and intellectual ability who can meet proprietors and general managers on an equal footing. Several of the salesmen have been in business for themselves, others have held executive positions of responsibility with large firms.

When an order comes in it is, first, passed on for credit, then checked as to price and extension. The order clerk then makes out in one operation the customer's invoice, the charge sheet, the shipping memorandum, the factory sheet, the salesman's copy, and a file copy. The factory copy goes upstairs to the stock clerk, who checks the quantities on order against a loose-leaf stock record (shown in another column). If the goods needed are in stock, they are shipped immediately, otherwise a notice is sent immediately to the manufacturing department.

In order to keep the desired quantities on hand maximums and minimums have been established and recorded as shown on the top of each stock record sheet. The stock clerk is required to watch these maximums and minimums and notify the manufacturing department just as soon as the stock of any item on hand approaches the low point.

Of course, there are a number of specialties which the firm is manufacturing continuously, as there is practically no let-up in the demand. Nevertheless, the factory is a flexible one and unusually large quantities of candy are turned out by planning and scheduling their work so as to keep all equipment busy and to secure the maximum output from each machine and from each operator. This is accomplished by planning production approximately one week in advance and then specifying a definite schedule each afternoon for the following day.

The company has been manufacturing many of its items for so many years that this planning is done almost automatically. Routine runs have been established, so that the workers in some departments know how certain batches will fit in best in order to secure maximum output. It is the practice to have in various departments certain extra items that can be worked on during spare time, while workers are waiting for the next batch or filling in at the end of the day or close of the week. Members of the firm also believe that it pays to give their permanent work force continuous employment insofar as business conditions will permit.

Many of their higher grade candies are manufactured practically on order, as it is the practice of the firm to ship these goods out fresh. Nevertheless, the manufacturing of these special orders is scheduled so as to fit in with the regular runs without causing confusion or delay. Insofar as possible, all goods are manufactured in uniform sized batches. These quantities to run have been standardized and worked out carefully to fit in with the manufacturing equipment, the quantities used and the company's storage capacity. After the manufacturing program has been laid out there is issued for each lot a batch ticket which serves as an order to the foremen to manufacture certain quantities. On this batch ticket the foreman enters the actual amount of labor used, the actual amount of materials used, the pounds produced, the amount of scrap. Where a batch goes through more than one department a separate ticket is issued for each department. The data thus secured serves as a basis for accurate cost.

Great care is exercised in the handling of raw material. Material for manufacturing is issued only in the exact quantities needed, except that in such items as sugar and other materials used in large quantities the department is charged with a given amount, but must show requisites equal to the amount used. One girl keeps all stores records of raw material and of finished stock. This provides a perpetual inventory of all goods on hand, which is checked frequently by actual count. Every six months a complete inventory is made of everything on hand. Due to the careful records kept and the care exercised in issuing material only as needed on requisition, the semi-annual inventory does not vary from the stock record more than $100 or $150 a year. After the inventory is made the

(*Continued on page* 44)

Some Forms Used by Wallace & Company

Dept._____

No.____ Week Ending_____

Name_____

	ARTICLE	ARTICLE	ARTICLE	ARTICLE	ARTICLE
	RATE	RATE	RATE	RATE	RATE
Mon.					
Tues.					
Wed.					
Thurs.					
Fri.					
Sat.					
TOTAL					

(Fig. 1) Dippers Production Record

Stock and Sales Record

The loose leaf stock record shown below (Fig. 3) is also used for a sales record. Under the column "Received" is posted the amount of made-up goods as they come from the various packing departments.

Under the next column "Issued" is pasted the amount of stock which is sent out on each order; the next column always shows the amount of manufactured stock on hand packed ready for shipment. Monthly and yearly sales are also totaled from this sheet.

Batch No. Ordered

Dept. Complete

Lbs.

Labor	Hrs.	Min.	Rate		

		Materials	Price		

Lbs. Prod. Lbs. Scrap Tot. Lab. & Mat.

To To Less Scrap Val.

Net L. & M.

L. & M. Per

In Charge.

(Fig. 2) Batch Ticket

Article Unit Sheet No.

Maximum Minimum Storeroom No.

	DATE	RECEIVED	ISSUED	ON HAND	ORDER OR REQN. No.	DATE	RECEIVED	ISSUED	ON HAND	ORDER OR REQN. No.

(Fig. 3) Stock Taking Sheet Which Is Used Also for Sales Record

executives analyze the inventory carefully with a view to reducing the amounts of certain items to be carried on hand. By this means the amount of capital tied up in raw material and finished stock is kept at a minimum.

The company has made many interesting experiments in the sale of goods, and one year supplied its salesmen with hand-colored photographs of different pieces manufactured. This did not work very well, as it was shown that it is necessary to have the customer actually handle and taste the goods in order to appreciate their fine qualities and flavors.

The department heads of the plant hold a brief meeting every morning at 9 o'clock, which gives them a chance to take up any matters of importance and dispose of them promptly, so that the rest of the day is left free for each man to attend to his own duties uninterruptedly. The officials of this company are also great believers in keeping careful records and statistics regarding the business. Their costs are kept in such a manner that it is possible to compare present costs against costs in any previous year, either of material or labor, or both. They also can tell at any time just the quantities of materials that have been used each year in the past, the quantities of each item that have been sold. Many other interesting statistics are available for the use of executives, so that when they are working on future plans and placing orders they know exactly what their past experience has been, the ratio of increases and decreases, are thus in a position to make sound decisions.

The firm was established first in 1870 on Courtland and Church Streets, New York. In 1899 it was moved to 160 Monroe street, and then in 1912 the factory was changed to its present location, one reason being that Brooklyn is an excellent market for the better type of employes. From 1870 to 1892 Mr. William E. Wallace, the founder, was president. In 1892 Mr. F. C. Swan was made president and continued until 1922, having just recently retired from the office of president, but he continues his active interest in the company, coming in every day, looking over orders, passing on credits, and assisting generally in decisions of company policies. At the present time Mr. A. M. Kelly is president and treasurer. Mr. C. L. Payne is secretary and in charge of sales. H. Gunning is assistant treasurer and general factory manager.

The writer's impression of Wallace & Company plant was exceedingly favorable. Everything seemed to be run efficiently and effectively, but without any "red tape" or undue system. It was remarkably clean, well lighted and well arranged. Their candy is the kind that "really" melts in one's mouth.

The publishers of THE MANUFACTURING CONFECTIONER, as well as the writer, wish to express their appreciation of the broad-minded attitude of Wallace & Company in supplying the information on which this article is written and allowing its use.

Chocolate Packing Department. Packing one pound tins with assorted chocolates wrapped in tin foil.

Wrapping and Packing Department No. 2. Wrapping lemon drops and cut stick candy in wax paper and packing in one pound tin cans.

Miscellaneous Plant Problems

by Ralph G. Wells

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Exclusively for The Manufacturing Confectioner

Selecting Location for Candy Plant

WHILE many factors must be taken into consideration in selecting a location for a candy plant, nearness to an adequate supply of labor seems to have been the deciding factor in the majority of cases. Nearly all the large plants are located in the heart of a big city or else within easy street car ride of some populous district. At times, one or two of the more venturesome souls have built plants in an attractive suburban locality only to find it impossible to get enough help to run the plant at full capacity during rush periods. Admittedly, a suburban or country location for a confectionery plant is far superior to one in the center of the average metropolis, but, so long as large numbers of extra girls are needed during holiday seasons, candy plants will be restricted to city locations where there is a large population of floating help to be secured when the rush is on. There are one or two apparent exceptions to the above, but it will be noticed that the product made is a fairly staple one which does not require the putting on of large numbers of girls for comparatively short periods.

Candy plants also tend to locate near each other, or at least within easy reach of a common labor center. This is not only because there is a larger supply of skilled help available in such centers, but also because many plants have been started by men who were former employes of another local candy firm. Unless there is a strong reason for locating elsewhere, the average man naturally prefers to stay in his own town. This, however, does not alter the fact that there are a number of important factors which should be taken into consideration if the location selected is to be the most advantageous one.

Factors Effecting Satisfactory Location

The factors which should be considered are as follows:

(a) *Market for finished product.*

It is an advantage to be in the center of a large candy-consuming population, where overnight deliveries can be made easily. Such local trade can be secured at a minimum of expense and is a necessary foundation upon which to expand to more distant fields.

(b) *Competition.*

As a general rule, the advantages of being located near competitors are greater than the disadvantages, unless one can find a virgin field where distance from competitors would give a practical monopoly on business.

Among the advantages of locating where there are other candy manufacturers are the following:

1. Larger supply of experienced help.
2. Easier to secure executive and subordinates with knowledge of candy business.
3. Banks familiar with requirements of the industry and therefore more receptive to requests for financial accommodation.
4. Supplies and equipment easier to obtain.
5. Express and transportation companies more familiar with shipping requirements.
6. Candy consumption is relatively greater in centers where the public has been educated by sales efforts of competitors.

(c) *Transportation facilities.*

It is an advantage to have a railroad siding if this can be secured without sacrificing other requirements. Furthermore, if there is any choice between communities, the one having the best freight and express service as well as the best parcel post facilities should be selected. One advantage of such cities as Boston and New York is the number of local express companies making deliveries to nearby cities. This independence of the larger express companies generally secures better service.

(d) *Legislation.*

Before finally deciding on a location, it is well to make sure that there are no restrictive state or municipal regulations which may handicap

the manufacture of confectionery at a reasonable cost.

(e) *Insurance rates, taxes, interest rates* should be considered in the cost of doing business in any one location.

(f) *Water supply.* While not a vital factor, yet the expense of securing a satisfactory water supply is greater than others.

(g) Other factors to be considered include *power supply* and *climatic conditions.*

Perhaps the most important factor is the type of building available, unless the manufacturer is in a position to build or remodel so that he can secure the kind of plant desired.

Of course, the ideal would be either to build a new building or take an old building and remodel it completely. Under present building costs this, however, is not always possible. The majority of manufacturers must content themselves with buildings which are already built.

When Considering an Old Building

In going over an old building, consider the following factors:

1. Can the plant be kept clean easily?
2. What about light, heat and ventilation?
3. Can the departments be arranged in their proper sequence so that material can pass easily from one department to another without too much handling?
4. Will there be room for further expansions?
5. What can we do with the building after we get through with it?
6. Can temperature and humidity of rooms be controlled easily?

Prepare Cardboard Model of Floor Plans and Factory Layout

Before definitely deciding on a building, it will save time and facilitate the arrangements of the factory to construct on a reduced scale a cardboard model of the factory with the side walls left out. This can easily be built up with the aid of floor plans drawn to scale and pasted on stiff cardboard. The space required for each machine and other stationary equipment should be shown by drawing on stiff paper the floor plan of the machine on the same scale that the floor plan of the building is drawn. These drawings can then be cut out and placed in their right position on the floor, held down by thumb tacks. Stairways, elevators, wells, buildings, partitions and other important features of the building should be represented by appropriately constructed models and inserted in the main model at the proper place. Partitions should be removable.

When the model has been completed, showing in detail the exact location of machines, the flow of material from one department to another can easily be traced by the use of colored yarns. When two materials are combined, the colored yarns may be twisted together or another color substituted for them. Such a plan will show the amount of space available and the relative location of different machines. In locating machines, ample space should always be allowed for the handling of material and the taking away of the finished product. Machines must also be accessible for repair and adjustment.

Maintaining Balance Between Departments

One of the most difficult plant problems to handle is that of maintaining balance between departments. Quite frequently the entire production of the plan is held up by the existence of a "bottle neck" or "choke point" in some portion of the factory. For this reason some manufacturers have found it well to chart the production capacity of their different departments. Such a chart will show quickly which departments have too small a capacity. Unfortunately, the balance of departments will vary with type of work and product. A plant may be in perfect balance for one grade of goods, but for another grade of goods it will be out of balance. Even in the well established plant, there is a constant problem of the relocation and rearrangement of machines. In order to facilitate the study of problems, of alterations and changes, some companies have a permanently constructed model of their plant on a reduced scale as suggested above, with machines and equipment movable so that any suggestion regarding rearrangement or the addition of new machines can be studied easily.

Working Conditions for Quality Product

Working conditions are an important factor in the production of confectionery of the right quality. In the more successful firms, cleanliness is the keynote. One superintendent expressed this idea very well when he said that *"Quality candy cannot be produced except under quality conditions."* If a manufacturer allows his plant to become disorderly and dirty he cannot expect his help to turn out candy which is any better than their surroundings. "Eternal vigilance" is the price of cleanliness. It is only by constant regular cleaning that a factory can be kept in proper shape. It is not enough that the equipment and work tables should be kept clean. All floors, walls and ceilings, in fact the entire room of each department should be thoroughly cleansed at regular intervals. Stairs, hallways, every space in the building must be kept in perfect condition at all times.

One of the most successful firms in the country is very fortunate in having a head cleaner who seems to have the idea that the plant exists for the sole purpose of being cleaned. While this attitude is sometimes disturbing to plant executives, yet it is a remarkably fortunate thing to find someone who appreciates the importance of cleanliness and insists that the plant be kept immaculate from top to bottom.

Working conditions include, of course, the problem of light, heat, ventilation, moisture, cleanliness, sanitation and safety. Provision must be made for insuring that all of these conditions are the best obtainable in the building. The only sure method of doing this is to be determine by careful study just what the best conditions are for manufacturing of each line of

goods and adopt these as standard. Working conditions not only affect the quality of the output, but also have a great deal to do with the general attitude of the help. Employes reflect unconsciously, both in their conduct and in their workmanship, the conditions under which they work. If employes are careless or negligent in the handling of their work, the factory manager should study first his own method of handling the plant and keeping it clean.

Maintenance and Repair

In many candy plants there is a tendency not to give sufficient attention to the problem of plant maintenance and repair. This is due to the fact that many candy men are not of a mechanical turn of mind and their interest is therefore centered chiefly around the making of confections rather than the running of a well-equipped factory with every production unit working smoothly and efficiently.

Few people realize that the modern candy plant has more machines in it than would be found in many other industries.

In the majority of plants the problem of maintenance and repair is a very large one. Nothing is more disastrous than the neglect of machinery and equipment. It is not enough to repair machines when they break down. If equipment is to be kept up, to its best, and maximum production secured, it is necessary that all machines and all equipment be inspected frequently at regular intervals. No machine should ever be allowed to go more than a week without having an experienced mechanic go over it and tighten it up and make at least a superficial examination to see whether it is properly adjusted and running smoothly. Automatic machines such as enrobers and packaging equipment should be inspected every day during rush periods. Some plants have one or two trained mechanics in each of their principal departments. These men spend their entire time going over machines and keeping them in good condition.

Several firms have found their physical and mechanical problems so large that they have centralized all the functions of this nature in one department, placing at its head a thoroughly competent trained engineer. Such a man has a number of department foremen or superintendents under him. The functions to be centralized in such a department include light, heat and power, building supervision and repair, machines and equipment maintenance and repair departments, mechanical shops, tool rooms, plant sanitation, fire protection and any other functions which have to do with the physical equipment. By centralizing all these activities in one division, it is possible to hire a thoroughly competent executive, so that the company secures expert service in each division.

The importance of a well organized maintenance department is shown clearly by the following list of things that must be kept in perfect condition in order to insure a smooth running of the plant.

1. Machinery and equipment.
2. Power and transmission lines.
3. Lights and lighting equipment.
4. Heating and ventilating equipment.
5. Air conditioning apparatus.
6. Elevators.
7. Store rooms.
8. Floors.
9. Walls and ceilings.
10. Windows.
11. Sanitary equipment and toilet facilities.
12. Partitions.
13. Benches, platforms.
14. Motors, belting and shafting.
15. Material handling equipment, motor trucks.
16. Safety appliances.
17. Water supply, including drinking water, sprinkler system, water feeds to machines and for cleaning purposes, as well as to the boiler room.
18. Fire doors.
19. Fire escapes.
20. Shipping and receiving platforms.
21. Plant yard.
22. Plant roof.
23. Exterior of the building.
24. Power house and equipment.
25. Office furniture.

And other items too numerous to mention.

It is apparent that if all of these items are to be taken care of properly and kept in repair the work of the maintenance and mechanical departments must be organized on a thoroughly effective basis. It is a job for a real man to handle. Everything must be inspected at frequent intervals in accordance with a definitely prearranged schedule. Repairs must be made promptly in a manner that will be permanent and lasting. All machines must be overhauled and put in good running order regularly. Nothing can be allowed to drift. This means definite planning and scheduling and these plans must be worked out in cooperation with the manufacturing department in order that production schedules will not be interfered with and so that machines will be ready to run when needed. This last is so important that many plants are planning their repairs in the same way that production schedules are planned. In such cases the planning department issues repair orders and determines which machines shall be done first.

Candy as Related to Easter

by V. L. Price

THERE was a time a good many years ago when comparatively few people gave very much consideration to Easter. In later years, however, pretty nearly everybody, regardless of their religious affiliations, are giving more consideration and thought to Easter and all that it means in every way, all of which has had a very tremendous effect on the candy industry. During that period between the first of the year and Easter Sunday, pretty nearly every manufacturer, jobber and retailer of candy in the United States is interested in Easter candies. The reason for this is very apparent, and it is that the public generally who consume an increasing amount of candy every year want a little change from the kind of candy which they have been eating and their attention and thoughts turn toward seasonable merchandise.

Candy can be and is made of a character and in keeping with the season when it is intended to be displayed and sold. Every manufacturer of candy is very busy just at the present time making Easter goods—Easter eggs of different kinds—centers dipped in chocolate, eggs cast and run up in revolving pans, made in bright, attractive colors. Rabbits, chicks, etc., which tradition tells us are associated with Easter, are all made in the form of candy.

The live, wide-awake merchant, whether he be situated in a big city or in the most isolated rural community, will find a very ready sale in his store for a good quality of Easter candy, but the success of his Easter business, not only on candy, but on other commodities as well, depends almost entirely on two things: first, on the quality of the merchandise which he buys and offers to his customer, and secondly, the display which he makes of his merchandise.

Easter Sales Depend on Quality and Display

We have seen many instances where retailers have gotten stuck on Easter goods, and almost without exception this has been due to one of two things, either the Easter goods which he bought did not have the eating quality which caused the consumer to come back and buy more, or else, if the eating quality was there, the retailer himself was at fault in failing to properly display these goods in such a manner as to not only attract the attention of passers-by so that they will come in and purchase, but also to have the goods properly and attractively displayed inside so that customers who come into his store with the idea of purchasing other merchandise will be encouraged in spending a few of their dimes and nickels, as well as pennies, for Easter candy, and buying a box of candy.

Display Easter Goods Early

It used to be that the average retailer thought there was no use in putting on display any Easter candy until a few days before Easter. Now, however, the sale of Easter candies has assumed such proportions that the public begins to demand Easter candies very shortly after the Christmas season is over, and we find that the live, up-to-date retailer who puts on a good display of Easter candies as early as five or six weeks before Easter will sell out all that he has of these candies in a comparatively short length of time and will have the pleasure of reordering on these goods several times before Easter Sunday actually arrives and is past.

An attractive display of Easter candies will not only interest the children, who are always attracted by pretty colors and pretty things, but will attract grown people as well, who like to take these things home to their families. Every retailer has in his store a vast number of articles to sell. What he needs is a seasonable, attractive leader which by proper display can be made a pulling power to bring people to his store. Once in, he has an opportunity to work on them and effect sales of other articles than those which are displayed. It is, therefore, important at this time to every retailer that he fortify himself with an article which can be purchased without too great expense to him, which can be easily and attractively displayed and which, on account of its seasonable nature, will interest the greatest number of people, and good eating and attractive Easter candy is the article which at this season of the year will serve his purpose.

Easter this year comes on April 20th. Every retailer ought to have an attractive display of Easter candy on hand not later than the first week in March. This display should be kept up in attractiveness and his stock should be kept up well in order to supply the increasing and continuous demand which he is bound to have for these goods, and such a stock of goods and such a display will result not only in a big business of a cash nature on the goods themselves, but will also prove of tremendous pulling power for a vast amount of other business.

Fondant in Principle and Practice

(*Continued from page* 29)

facture of fondant for cream centers. In these goods neither the color nor the strength of the fondant is of prime importance, still they must not be disregarded if uniform goods are desired. Where the volume of fondant permits it is always advisable to use the crystal syrup only once for crystallization and then dispose of it in manufacture. The fondant will be better in color, strength and uniformity and the same advantages will be noted in the crystallized goods.

When using residue crystal syrup which has been boiled only once it is safe to figure that it will contain 67.3 per cent of sugar by weight.

If it is to be used to produce a pure sugar fondant or one only slightly reduced with glucose, an open kettle is entirely satisfactory, but if it is desirable to add larger quantities of glucose and keep the strength and color of the finished fondant up, a vacuum pan should be resorted to.

It is difficult to give absolute cooking points for this class of work, as the strength of the crystal syrup is very variable, and it may be desirable to cook one batch a little higher or lower than another. Where possible, therefore, the pan should be equipped with a test rod which allows the batch to be cooked by the finger method or at least observed in this way as it cooks. The syrup should be brought to nearly a boil in the side kettle, the glucose added and then the whole batch brought to a boil. Cook to about 228° or lower if the batch is known to be weak, and then draw it into the pan. Raise the vacuum and hold evenly, never vary it until the desired cook is reached. The finishing point will, of course, be lower than in the open. Cool quickly and beat as usual.

In Europe, especially England, much of the fondant is cooked in a continuous cooker which is placed immediately over a cooler and this in turn over a continuous beater. The result is a very white, strong fondant.

These two methods are particularly desirable in the making of maple and brown sugar fondant, as these varieties are very apt to show unfortunate weakness, no matter how carefully handled, when cooked at atmospheric pressure.

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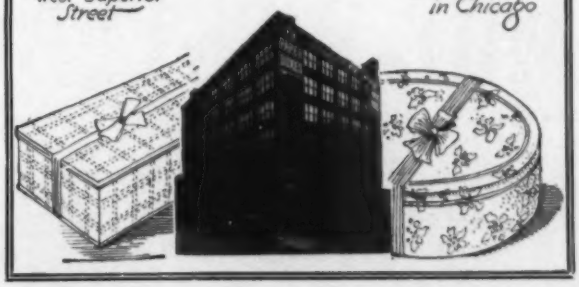

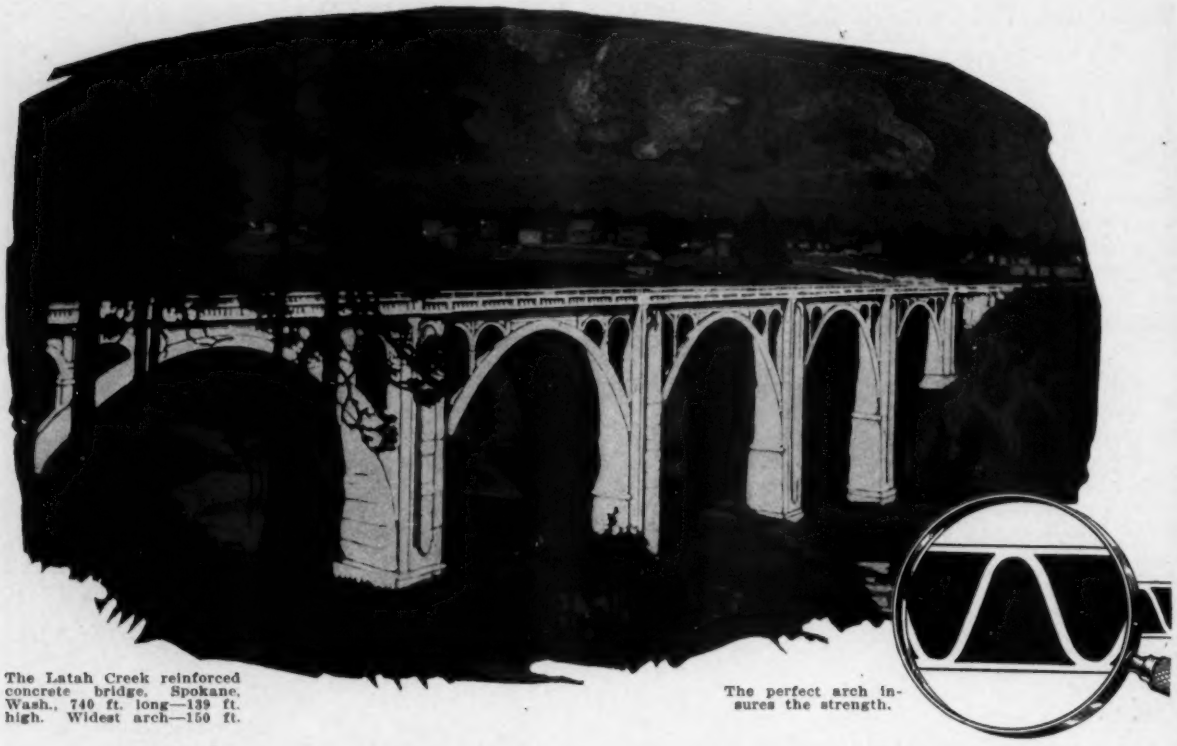

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